

He did not, however, give up his studies, but fitted himself to enter the Napance Academy and ultimately the teaching profession. Mr. McHenry matriculated at Victoria University in 1869, and after a distinguished course graduated with honours in 1873. During the last sixteen years he has held the position, and ably and faith-

fully discharged the duties, of Principal of Cobourg Collegiate Institute. His influence, like that of all true workers, is deathless, and his life will be lived over again in the lives of those whom he has helped and instructed. We sincerely sympathize with Mr. McHenry's aged mother, and with his bereaved wife and family.

SCHOOL WORK.

MATHEMATICS.

ARCHIBALD MACMURCHY, M.A., TORONTO.
EDITOR.

AN APPLICATION OF HORNER'S DIVISION TO ARITHMETIC.

R. A. Gray, B.A., Math. Master, Collegiate Institute, London.

Vulgar fractions whose denominators are of the form $10a - 1$ may be reduced to decimals very easily, when " a " is not a large integer. Take for example $\frac{7}{3}$. This may

be written $\frac{7}{3 \times 10 - 1}$. Write down the numerator in the form 7 units + 0 tenths + 0 hundredths + 0 thousandths + etc., and the divisor 3 tens - 1 unit.

Now as 3 does not divide 7 exactly, we may write for 7, 6 units + 10 tenths, and the first step in the division will be

$$\begin{array}{r} 3 \overline{) 6 + 10 + 0 + \dots} \\ + 1 \overline{) + 2 + 4} \\ \hline 2 + 4 \end{array}$$

The 4 in the hundredths place may be changed to 3 hundredths + 10 thousandths, and we obtain still further

$$\begin{array}{r} 3 \overline{) 6 + 10 + 0 + 10} \\ + 1 \overline{) + 2 + 3 + 1} \\ \hline 2 + 4 + 1. \end{array}$$

The 11 thousandths may likewise be changed to 9 thousandths + 20 ten-thousandths, and the operation continued to the 28 recurring places with little trouble.

In the quotient the 2 represents tenths; the 4, hundredths, and so on, or .2413 . . .

This operation is plainly nothing more than dividing the numerator 7 by 3 and carrying over each remainder to be used with

the previous figure in the quotient, thus: 3 into 7, 2 with remainder 1; 3 into 12, 4; into 4, 1 with remainder 1; into 11, 3 with remainder 2; into 23, 7 with remainder 2; into 27, 9; into 9, 3, and so on. The quotient is thus .24137931

In many cases, as in the above, the operation is mental. As an additional example take $\frac{10}{8}$. We divide 10 by 8 and write down the quotient in this way: 8 into 10, 1; into 21, 2; into 52, 6; into 46, 5; into 65, 8; into 18, 2, etc.; the decimal is thus .126582

Many denominators not of the form $10a - 1$ may be reduced to that form by multiplication, as $\frac{1}{8} = \frac{125}{1000 - 1}$.

A similar method may be adopted with denominators of the form $10a + 1$, and as vulgar fractions that give a large number of recurring places may be reduced to one of these forms, the reduction of many vulgar fractions to decimals is a matter of very little labour.

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EDUCATION DEPARTMENT,
ONTARIO.

JULY EXAMINATIONS, 1889.

High School Entrance.

READING.

Examiners: John Seath, B.A.; W. H. Ballard, M.A.

In the examination in reading, the local examiners shall use one or more of the following passages, paying special attention to pronunciation, emphasis, inflection, and